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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,440	04/13/2001	Omar S. Khalil	6800.US.O1	2947

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EXAMINER

KREMER, MATTHEW J

ART UNIT

PAPER NUMBER

3736

DATE MAILED: 04/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/834,440

Applicant(s)

KHALIL ET AL.

Examiner

Matthew J Kremer

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitation "the concentration" in line 1 in which there is insufficient antecedent basis. Claim 17 recites the limitations "the concentration" in lines 1-2 and "the tissue" in line 2 in which there are insufficient antecedent bases.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6-7, 9-12, 14, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,978,691 to Mills. Mills teaches a device for noninvasively determining oxygen saturation, partial pressure of oxygen, partial pressure of carbon dioxide, concentration of bicarbonate ion and total carbon dioxide,

acid-base balance, base excess, hemoglobin level, hematocrit, oxyhemoglobin level, deoxyhemoglobin level, and oxygen content. (Abstract of Mills). Mills teaches the two probes at different locations at two different temperatures are used to calculate oxygen saturation. (column 12, lines 6-42 of Mills). Mills teaches a mathematical relationship (column 9, line 56 to column 11, line 56 of Mills). In regard to claims 1 and 7, the device can be used to detect cancers. (column 14, lines 20-25 of Mills). In regard to claims 2 and 10, 660nm and 940 nm can be used. (Fig. 11 of Mills). In regard to claims 3 and 11, reflectance can be employed, (column 8, lines 1-3 of Mills). In regard to claims 4 and 12, simultaneous measurements can be taken. (column 12, lines 6-22 of Mills). In regard to claims 6 and 14, temperatures ranging from 33-40 °C can be used. (column 12, lines 6-42 of Mills). In regard to claims 9 and 16, the device can be used to determine glucose. (column 13, lines 28-42 of Mills).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 8, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,978,691 to Mills (cited by Applicant) as applied to claims 1 and 9. In regard to claims 5 and 13, Mills does not teach an embodiment in

which the two probe locations are taking measurements at different temperatures in a sequential fashion. Mills teaches two probe locations in which measurements are taken at different temperatures simultaneously. (column 12, lines 6-13 of Mills). Mills also teaches a single probe location in which measurements are taken at different temperatures in a sequential fashion. (column 11, lines 59-67 of Mills). Mills is implying that his method does not require that the both measurements at different temperatures are taken simultaneously since one method allows for sequential measurements. This implication would lead to one with ordinary skill in the art to believe that sequential measurements are a valid option if desired due to design considerations. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device with multiple measurement locations to include sequential measurement taking since Mills implies that such a method is valid. In regard to claims 8 and 15, Mills does not explicitly teach providing a population comprising a sufficient number of subjects to establish a category selector or to establish a statistically meaningful relationship. Mills teaches the use of normal volunteers during calibrating mathematical relations. (column 9, lines 44-53 of Mills). It is known in the art that calibration using human subjects are performed when determining a computation model for an optical diagnostic device. It is also well known in the art that the required accuracy of the model and the availability of subjects are factors to determining when determining calibration procedures. This information provides a clear suggestion that the number of subjects can be modified and that the

determination of the most appropriate number of subjects by routine experimentation would, therefore, be prima facie obvious to one having ordinary skill in the art.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art teaches oximetry measurements in different regions. (U.S. Patent 6,334,065 to Al-Ali et al. and U.S. Patent 5,218,962 to Mannheimer et al.).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Kremer whose telephone number is 703-605-0421. The examiner can normally be reached on Mon. through Fri. between 7:30 a.m. - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Winakur can be reached on 703-308-3940. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0758 for regular communications and 703-308-0758 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.



Matthew Kremer  
Assistant Examiner  
Art Unit 2736  
April 18, 2002



ERIC F. WINAKUR  
PRIMARY EXAMINER